



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 8, Issue, 4, pp. 16648-16650, April, 2017

**International Journal of
Recent Scientific
Research**

DOI: 10.24327/IJRSR

Case Report

FRACTURE OF CROWN EN MASS AND RENOVATION OF PREMOLAR TO PREMOLAR SMILE IN MAXILLARY ARCH: A CASE REPORT

Navdeep Jethi., Yajuvender Singh Hada., Rachana Mishra and Anushree Jain

Department of Conservative Dentistry and Endodontics, Daswani Dental College, Kota

DOI: <http://dx.doi.org/10.24327/ijrsr.2017.0804.0190>

ARTICLE INFO

Article History:

Received 18th January, 2017
Received in revised form 10th
February, 2017
Accepted 06th March, 2017
Published online 28th April, 2017

Key Words:

Ellis Class VIII fracture, Fracture of
crown en mass, PFM crowns,
Composite veneers, Fibre Post and core.

ABSTRACT

An aesthetic smile is very important for anybody's psychological well being and fracture of teeth may adversely affect the physical and mental health of a person. Usual treatment plan in fracture of crown en mass or Ellis Class VIII fracture is prosthetic replacement of that tooth. Imagination about extraction and loss of a tooth may traumatize a person psychologically. To minimize the psychological trauma resulting from the extraction, fibre post and core build up of maxillary anterior was planned following PFM crowns after endodontic treatment of the tooth diagnosed as Ellis Class VIII fracture.

Copyright © Navdeep Jethi et al, 2017, this is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

One of the intriguing findings in psychological, research is the existence of a physical stereotype. Smile is an important part of the physical attractiveness.¹ According to American academy of cosmetic dentistry, Power of smile is that it act as a mood booster, increases the attractiveness of a person, make them happier and may increase 7 years of life. And it was further found in an photographic study that after cosmetic corrections, the pictured women were perceived as more kinder, more sensitive, more responsive and happier.³

Dental trauma often has a severe impact on functional, aesthetic, social and psychological effects.⁴ For Ellis class VIII: Fracture of crown en mass, usually treatment plan includes extraction followed by artificial prosthesis but imaginations about pain during extraction along with trauma of losing a teeth especially anterior may traumatise the psychological of the person.⁶

The contemporary practice of dentistry must include, management of the dentition and soft tissue modifications and restorative procedures or combination of these techniques.⁴ Recent advances in bonding and tooth coloured materials have opened the door to an ideal variety of elective dental treatments for the purpose of enhancing appearance or reversing the visual signs of aging.³ In this case, endodontic treatment was planned

for Ellis Class VIII Fracture to minimize the physiological trauma of the patient resulting from the loss of anterior tooth.

Case report

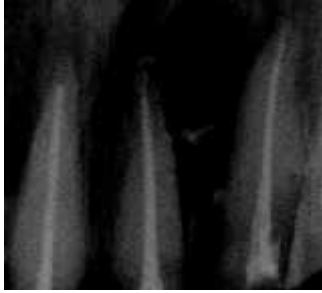
A 38 years old female patient reported to us with a chief complaint of broken upper front tooth following trauma, two month ago along with worn out teeth in mouth. After clinical examination, her maxillary incisors were diagnosed as fracture of crown en mass and she was previously advised by some other dentist for extraction and prosthetic replacement. She was afraid of extractions and strictly wanted to save her remaining part of the teeth. To give her teeth another chance and to minimize her physiological trauma, Root Canal treatment, following Post and Core build up and crowns was planned along with direct composites veneers for attrition. The involved teeth were treated endodontically and obturated with gutta percha cones and ZOE sealer. For adjacent abraded teeth (12, 13, 14, 23, 24, 25), Window preparation was done and direct composite veneers were finished and polished properly to achieve an aesthetic effect.

*Corresponding author: **Navdeep Jethi**

Department of Conservative Dentistry and Endodontics, Daswani Dental College, Kota



a



b

Fig a Preoperative Photograph b) Obturation in 11, 21 and 22

To increase the crown length, crevicular incisions were given for gingivectomy and osseoreduction was done to gain 2 mm of length, the crown lengthening is necessary to give the proper ferule and bevels, suturing was done and patient was recalled after a week when proper healing had occurred



a



b

Fig a, b Post and Resin Core Build Up In 11, 21 And 22



a



b



Fig A) Pre Operative Radiograph, B) Suturing Done after Osseous reduction, C) 2mm Crown Lengthening Done

After proper healing occurred, the post space was prepared in 11, 21, and 22 using Gates Glidden drills (no 35), leaving 4-6 mm of gutta percha at the apical thirds of the teeth Fibre post was used to strengthen the teeth, as they are more aesthetic and lessens the chances of teeth fracture. The dual core resin was used to cement the post and core build up. Impression was made in putty and PFM crowns were given.



Fig a PFM CROWN IN 11,21,22



b Composite Veneers



Fig Happiness of the patient, Finished And Polished Composite Veneers Complementing PFM Crowns

DISCUSSION

The range of Crown fracture are less than those not involving the pulp is 2-13%. Crown fracture involving enamel, dentin and pulp are called "complicated crown fractures" by Andreasen⁵. In Ellis classification it is, Ellis Class VIII-Complete crown fracture and its replacement⁵. Root extrusion can be used as the method to expose the fractured segment out of the socket and it takes 2 weeks minimum.⁵ Fibre post were used because they have similar elastic modulus as of dentine and they produce similar stress field as that of natural teeth where as high stress concentration is there in case of metal post at the post dentine interface.⁴ Composites are very versatile materials and very useful in aesthetic oriented dental procedures. They can camouflage like natural dentition if we know its material sciences and technique of use.² Achieving desired esthetics in a composite restoration is critical. Effective finishing and polishing, provides optimal aesthetics and marginal integrity of the restorative interface. Rate of wear increases in unpolished restorations as it increase the coefficient of friction.² Also rougher surfaces contribute to recurrent caries, gingival irritation, and staining and plaque accumulation.²

CONCLUSION

The trauma of losing anterior teeth from maxillary aesthetic zone can adversely effect human psychology. Renovation of teeth using post and core followed by artificial crown is a successful treatment regime in crown en mass fracture. It is not always necessary to go for extraction in Ellis Class VIII fracture.

References

1. Anne E. Beall. Can a New Smile Make You Look More Intelligent and Successful? *Dent Clin N Am* 51 (2007) 289–297A
2. Hervas-García A, Martinez-Lozano MA, Cabanes-Vila J, Barjau-Escribano A, Fos-Galve P. Composite resins. A review of the materials and clinical indications. *Med Oral Patol Oral Cir Bucal* 2006; 11:E215-20.
3. A.J. Ker, Richard Chan, Henery W. Fields, Mike Beck, Stephen Rosensteil. Esthetics and smile characteristics from the layperson's perspective: a computer based survey. *JADA*, OCT.2008;139: 1318-1327
4. M. Vano^{1,2}, C. Goracci¹, F. Monticelli¹, F. Tognini¹, M. Gabriele², F. R. Tay³ & M. Ferrari. The adhesion between fibre posts and composite resin cores: the evaluation of microtensile bond strength following various surface chemical treatments to posts. *International Endodontic Journal*, 39, 31–39, 2006
5. Garg N, Garg A. Textbook of endodontics. 2nded. New Delhi: Jaypee Brothers; 2010.
6. Grossman LI, Oliet S, Del Rio CE. Endodontic practice, 11th ed. Varghese; 1991.

How to cite this article:

Navdeep Jethi *et al.* 2017, Fracture of Crown En Mass And Renovation of Premolar To Premolar Smile In Maxillary Arch: A Case Report. *Int J Recent Sci Res.* 8(4), pp. 16648-16650. DOI: <http://dx.doi.org/10.24327/ijrsr.2017.0804.0190>
